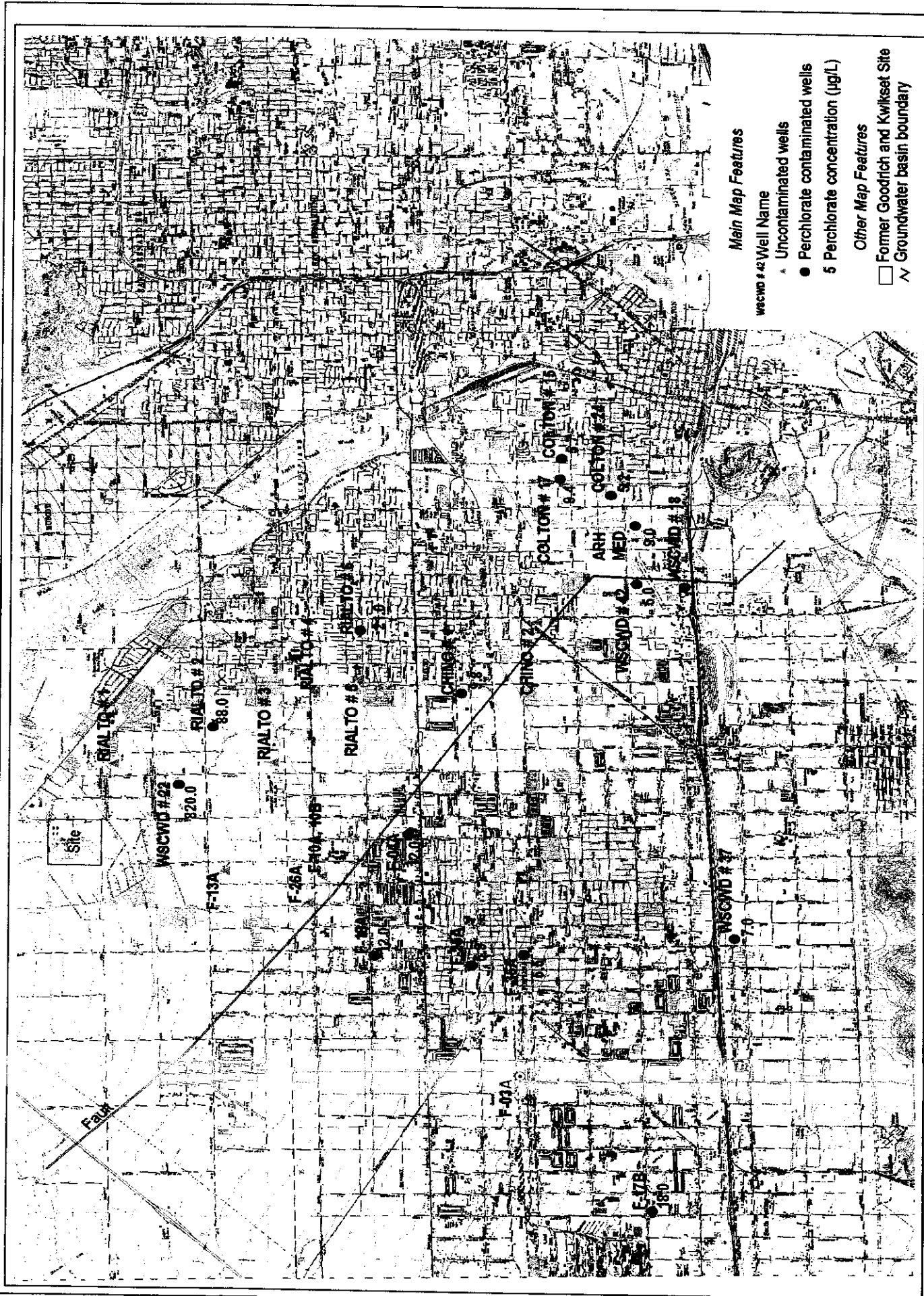


ATTACHMENT 1

Well Location Map



Main Map Features

- WSCWD # 42 Well Name
- ▲ Uncontaminated wells
 - Perchlorate contaminated wells
 - 5 Perchlorate concentration (µg/L)
- Other Map Features**
- Former Goodrich and Kwikset Site
 - △ Groundwater basin boundary



WELL LOCATIONS AND PERCHLORATE CONCENTRATIONS

ATTACHMENT 2

Minutes from a November 12, 1987 meeting held by the
Rialto Fire Department



City of Rialto California

FIRE DEPARTMENT

~~Regina K. Rios~~

Acting Fire Chief
Henry S. Lewis

November 3, 1987

Mr. Ralph Apple
Red Devil Fireworks Company
3196 North Locust
Rialto, California 92376

Dear Mr. Apple:

You are invited to attend and participate at a meeting hosted by the City of Rialto on Thursday, November 12, 1987, at 2:00 P.M. The meeting will be held at the Rialto Fire Department (in the training/conference room) 131 South Willow Avenue, Rialto, California.

The purpose of this meeting is to allow discussion with elected City officials and representatives of other City departments regarding the recent explosions which occurred at Trojan and Celebrity Fireworks Companies.

Please contact Senior Fire Inspector Sam Gutierrez at (714) 820-2508 with the name and title of your respective representative.

Sincerely,

Henry S. Lewis
Acting Fire Chief

/c

AP 01057

JOINT MEETING HELD ON NOVEMBER 12, 1987

BETWEEN CITY OF RIALTO OFFICIALS AND

FIREWORKS COMPANY REPRESENTATIVES

ATTENDEES: Joe Aklufi, Attorney representing Schultz Trust
Ralph Apel, Red Devil
Greg Beach, San Bernardino County DEHS
Gene Baguley, Aerojet Ordinance
Homer Bludau, City of Rialto City Administrator
Jerry Brower, Broco, Inc.
Stuart Carlton, Trojan Fireworks
Dean Collister, Pyro-Spectaculars
Leon Cuthbert, Aerojet Ordinance
Ray Farmer, City of Rialto Police Chief
Henry Lewis, City of Rialto Acting Fire Chief
Tom McVeitty, City of Rialto Fire Division Chief
Bill Page, Celebrity Fireworks
Tom Peters, Trojan Fireworks
Jim Smith, San Bernardino DEHS
Earl Snowball, San Bernardino County Sheriff's
Explosives Detail
Robert Souza, Pyro-Spectaculars
Rod Taylor, City of Rialto Planning
Chuck Wideen, San Bernardino County Sheriff's
Explosives Detail

Division Chief Tom McVeitty opened the meeting at 2:05 P.M., and everyone introduced themselves.

Mr. Bludau explained that the two recent explosions generated a lot of interest from the citizens who have demanded we close the fireworks plants down. Due to this outcry, the City Council has directed the staff to look into this and bring recommendations back to the City Council. Citizens who left their name and addresses will be notified when a meeting has been scheduled to discuss this further. Prior to that meeting we called this meeting so you can be prepared as to any recommendations. Last week we met with the regulatory agencies involved and had very good input. This week we are asking for your recommendations and help. Specifically, we would like an inventory of how much is stored and where, transportation of explosives in and out of that area and any suggestions you may have.

Each representative talked about their operation (storage, manufacture, etc.)

NOVEMBER 12, 1987
PAGE 2

Red Devil: The Fire Department has a good handle as to who is doing what in this area. It has been a pleasure working with them--they ask questions and have done a very good job of compiling information.

We are importers and distributors of Class "C" fireworks--import from out of state, China and Taiwan. We have an inventory of fireworks stored year around--February through June is the bulk. It is stored in a warehouse above-ground, concrete tilt-up, sprinklered building. There is no raw material in storage; some chemicals left but we are in the process of selling it--very little left. Total pounds are unknown and no black powder is in storage. Finished goods stored weigh different amounts and it is difficult to place a poundage on it. I will provide you with a copy of our business plan.

We can probably store 100,000 cases--cases vary from five pounds to thirty-five pounds. The maximum amount allowed for Class "C" fireworks is 75 grams for a single finished product.

Most transportation occurs when we receive imports and ship to our warehouse (between February and July). Semi-trailers are not used for storage.

We have approximately 100 acres and 75-80 buildings--most are not used. Five buildings are used for storage (four tilt-up and one warehouse). We have one long-term lease; one short-term lease to Pyro-Spectaculars; and one short-term lease to a trucking company. We own the 100 acres and lease two bunkers. Our lease with Pyro-Spectaculars states that they would be responsible for any permits they need for their business.

We have a security system monitored year around and a fire system. Monitored system is a detection device on all doors and infra-red lights. No security guards on duty--line drivers have a guard posted at the gate. There are four ingresses to our 100 acres all chained and padlocked. We now have a security guard during nonworking hours (nights and weekends). We have sold 50-60 acres and this is completely separate from our existing 100 acres.

Red Devil has been there since 1967.

Trojan Fireworks: Most aspects of our operation is import and distribution of Class "C" fireworks done at our warehouse in Norwalk. Rialto is a manufacturing plant for Class "C" fireworks. We have a big line of display items--we do not make shells. We do stage effects (e.g., Miami Vice, etc.)

We have five acres within the fence--all manufacturing. We have three bunkers for storage and preparation of shell-type aerial displays (for July 4, schools, etc.). One bunker everything we use is stored; one bunker is backup storage; and one bunker has partially completed items.

Transportation varies--most around July 4--twice a week on the average. The weight of storage is approximately 30,000 to 40,000 pounds in the display bunker--in the Fall 10,000 to 15,000 pounds. The display backup bunker has less--approximately 20,000 to 30,000 pounds; the other bunker about 50,000 pounds.

We have about 30 people and do not do background checks. The factory workers are interviewed carefully but no background checks. We have a psychiatrist whose services we use and asked him if there is a way to tell if an employee was suicidal and he said it would be difficult and take two to three hours to determine.

We have a fence and guard dogs, burgular alarm and lights at night. The display bunker has the building fronting it alarmed. We hire security guards during the busy time of year. The bunkers are identified by letters/numbers. We own the five acres and do not sub-lease. We lease the bunkers from Mr. Hayward (one and one-half) and Schultz Trust (one and one-half).

We have a set of keys locked in the office. No one has keys to the bunkers. If an employee took a set of keys we would know by the end of the day because all keys must be accounted for.

We store a maximum of 20,000 to 30,000 pounds of chemicals.

Trojan has been there since 1971.

Mr. Aklufi: The Schultz Trust estate hold 95 acres--four to five major tenants. Primarily for leasing magazines. Terms of leases vary (two to three years) and renewed periodically with options. No long-term leases but Aerojet has a five-year lease with options. We have an insurance clause on all that they are to abide by all State and Federal laws.

Aerojet Ordinance:

We have six bunkers for storage only. Five bunkers are used for propellant storage and one is used for high explosives storage. No raw material storage; assembly of all Ordinance material is in Chino. We have 23,000 pounds in one bunker of high explosives; everything else is propellant.

The explosives material is very expensive and we are attempting to sell it or will take it back to our Chino facility. May bring in buildings approved by DOD or will get rid of it. Once that is out we are primarily a storage facility. The people who go down there are licensed and are a select group. We have absolute control of entrance. Fencing and sensing devices. We do not handle raw materials. We increase our storage capability at Chino and no delivery is made to the Rialto facility.

We tried to make a deal with the Navy to get rid of the explosives but they backed out because of the liability. Only other way to get rid of this is to destroy with a permit from the DOD and AQMD.

NOVEMBER 12, 1987

PAGE 4

The propellant is double base Class "B". Not a mass detonator (like black powder or explosives). Very little propagation to the other bunkers. Propellant is stored under DOD.

We have approximately five acres (five bunkers) with seven foot fence and barbed wire all around. We had one attempted break-in in 1972 (shot the locks and used a crowbar but were not successful). Since we put up the fence we have had no problems at all. We have a sensing light monitor by the gate twenty-four hours a day.

The explosives will be gone within 90 days--will either move it to Chino or sell it. We will still keep our leases for propellant storage. Two of the bunkers have 200,000 pounds of Class "B" propellant; they all usually have 80,000 pounds.

It is inspected every Monday morning for vandalism

(A scale from the DOD manual was given to Chief Farmer). There are no significant environmental hazards--toxic vapors and fumes dissipate almost immediately.

Broco, Inc: We have three specific sites--four magazines (two have explosives of 1.1) and the other two have chemicals/oxidents. They have triple locks. The facility manager has one set of keys and one set for the assistant. Keys are in the office in the safe. We control the access to the magazines very carefully. There are three to four people working in the area (shipping and receiving).

We have a line of dry goods--welding rods, torches, etc.) We have a guard at night and weekends. We put an alarm system on the buildings (a magazine was broken into once and tools only were stolen).

One magazine has very miniscule amount of explosive (used for movie effects). Manufacturing is not done in buildings. Magazines are used for storage only. We use oxidizers (like organic peroxides). We are in the magazine daily and inspect on a regular basis.

We do not have fences in the lower area except in specific areas (the lab and trailers). Access can be made from Stonehurst or from the north at Riverside or Sierra. There is not an overall perimeter fence. The five acres around the Schultz Trust is completely fenced and alarmed. We have had a guard there since the explosion (after the people leave in the afternoon until they arrive in the morning). The Guards are licensed and contracted through Williams (I think--will get it for you for sure). The Locust Plant has 10-12 people (but not a guard)

No sub-leases and most of my people have been with me many years. We manufacture welding rods and underwater cutting rods. We have a hazardous material disposal for hospitals--difficult to get approval to get rid of it. We follow rules of AQMD and TSD requirement. By-product for storage and manufacture is destroyed on site. We store and transport the hazardous material; manufacture and sell in Bloomington area.

AP 01061

Celebrity: We had five acres (fenced) and nine people employed. Primarily Class "B" aerial fireworks. Stored chemicals equaled 10,000 to 12,000 pounds and up to 7,000 pounds of black powder; the rest was finished shell--10,000 to 30,000 pounds of finished product. We had two sets of keys; one for me and one for the foreman. Only manufactured Class "B" other than the black powder we had on hand. We have one trailer left that has some salvage in it. We are out of business except what we are storing in a trailer. The trailer has been there one to two years; hot waste two to three years. It has been in the trailer as hot waste material for the last year. We had been burning it on-site until we found out we were not supposed to. We never had a conditional permit except for Trojan.

Celebrity has been there for three years; Broco over twenty-five years.

City of Rialto Fire Department: We have been working with the facilities regarding the 90 days allowable for storage of waste.

City of Rialto Planning Department: The area is zoned M-2 which allows for manufacture and storage of explosives (subject to a public hearing). As long as the bunkers are existent and no new facilities are built (which require a building permit) just a business license is required.

Pyro-Spectaculars: We have public display Class "B" and are importers/exporters/wholesalers; generally wholesalers and licensed with the State.

We have 25 acres--fire alarm system and office has alarm system. We keep an accurate inventory on our computer. A printout can tell the quantity of Class "B" or "C" materials at any given time. We submitted a map to the Fire Department and identified each bunker.

The security on the storage bunker is double lock. We had one break-in fifteen years ago but they didn't touch anything.

We have fifteen workers and five to six people have access to the keys. We do not manufacture--we are wholesalers--public display operators. We have above-ground storage facilities and two bunkers.

We transport in and out daily. Responsible agency is CHP and they are quite stringent on vehicles and have approved routes. Approved routes are freeways to Highland to Locust or freeway to Sierra to Highland (Alder is not approved now). There are no approved vehicle stops for trucks transporting explosives in Rialto. Tri-State stop is approved for Tri-State trucks only.

Are you doing anything different since the last explosion to make your operations more safe?

Broco, Inc. was spokesman for everyone represented and said that since the last explosion a guard was hired to walk and ride the area and we all contribute to this system and I think we will continue to do so (although we have not discussed it). (It was generally felt that an on-site guard would be continued). (Pyro-Spectaculars discontinued around-the-clock security several months ago.) We do not have authority to expell anyone who is up there hunting. We do not want to set restrictions from others firing guns as it may also restrict us firing on our own range.

We need to look at overall fencing of the area. We are talking about a tremendous outlay as far as the fencing is concerned.

City of Rialto Police Department: This may be something you have to address as this community moves north.

When the Police Department goes in they don't know who is in charge or how to reach a supervisor. The area is not clearly marked and there is delay.

(The Fire Department has maps with each company marked.)

The fireworks representatives felt they had been there longer than the property owners, however, it was pointed out that as houses are built closer to the fireworks facilities, the company must take the position to protect the people and the houses.

Mr. Aklufi noted that these facilities are the largest in the Southwest and provide revenue and jobs for the City of Rialto and that perhaps this area should be planned as an industrial area.

Mr. Bludau and Division Chief McVeitty each explained that even though it would make life easier if the fireworks plants were relocated, we must look at everyone's position. Just as Celebrity's business has been turned upside down because of one individual's actions, so has the City's. We are all here to come up with ideas and recommendations to solve the problem in the best interest of everyone.

The fireworks representatives were concerned that any changes would be justified and cost effective and wanted to know what the bottom line was from the regulatory agencies.

Keep the quantities down.

Police Chief Farmer said that there will be a lot of public and political resistance to any expansion and suggested that the companies need to start thinking about public relations. "We all know that the suicide was a freak accident, but we have to convince the public." Whether you like it or not, there will be 8,000 to 10,000 people living next to you and children will be going to school 2500 yards away. You will need to take these things into consideration.

Celebrity Fireworks was concerned as to when the building restrictions will be lifted and were told that a public hearing on the moratorium is scheduled for next Tuesday and it can be extended.

Mr. Brower expressed concern about any delay and asked for the City's help. He also suggested that everyone could put up fences, incorporate a roving patrol and keep everyone out who does not belong.

The City felt that this would be a big step.

There was concern from the fireworks representatives about building houses close to the dump and was told that the dump is in Fontana and Rialto does not have any houses closer than one-half mile.

Division Chief McVeitty said according to ATF, the American Table of Distance allows 2800' to build homes to the nearest bunker, but ATF feels we should double that and reiterated that if someone builds in that area then it is the individual company's responsibility to make sure that the area is safe for the people.

The fireworks representatives feel like it is "we against they" and want the City's help and said they will help by working together. Where can they start?

Division Chief McVeitty said we are not in a position to make recommendations today but does feel that the first two issues will be:

1. Limit new construction to whatever existed at a certain date.
2. Security.

Mr. Jerry Brower did not feel that limiting construction would be acceptable.

Mr. Apel felt that this industry is being made the scapegoat--perhaps the developer can be made to put up block walls, etc.

Mr. Brower said Bill Page (Celebrity) needs help now.

It was suggested that everyone come to the meeting on Tuesday night (November 17, 1987 at 6:00 P.M.) and let the City Council know that some consideration needs to be given to the people now and perhaps the moratorium should be on future expansion.

Pyro-Spectacular asked if Sam could give them some clarification on burning permits.

Mr. Aklufi asked what our next step would be.

Division Chief McVeitty said we would meet again, but it will probably be a month or two.

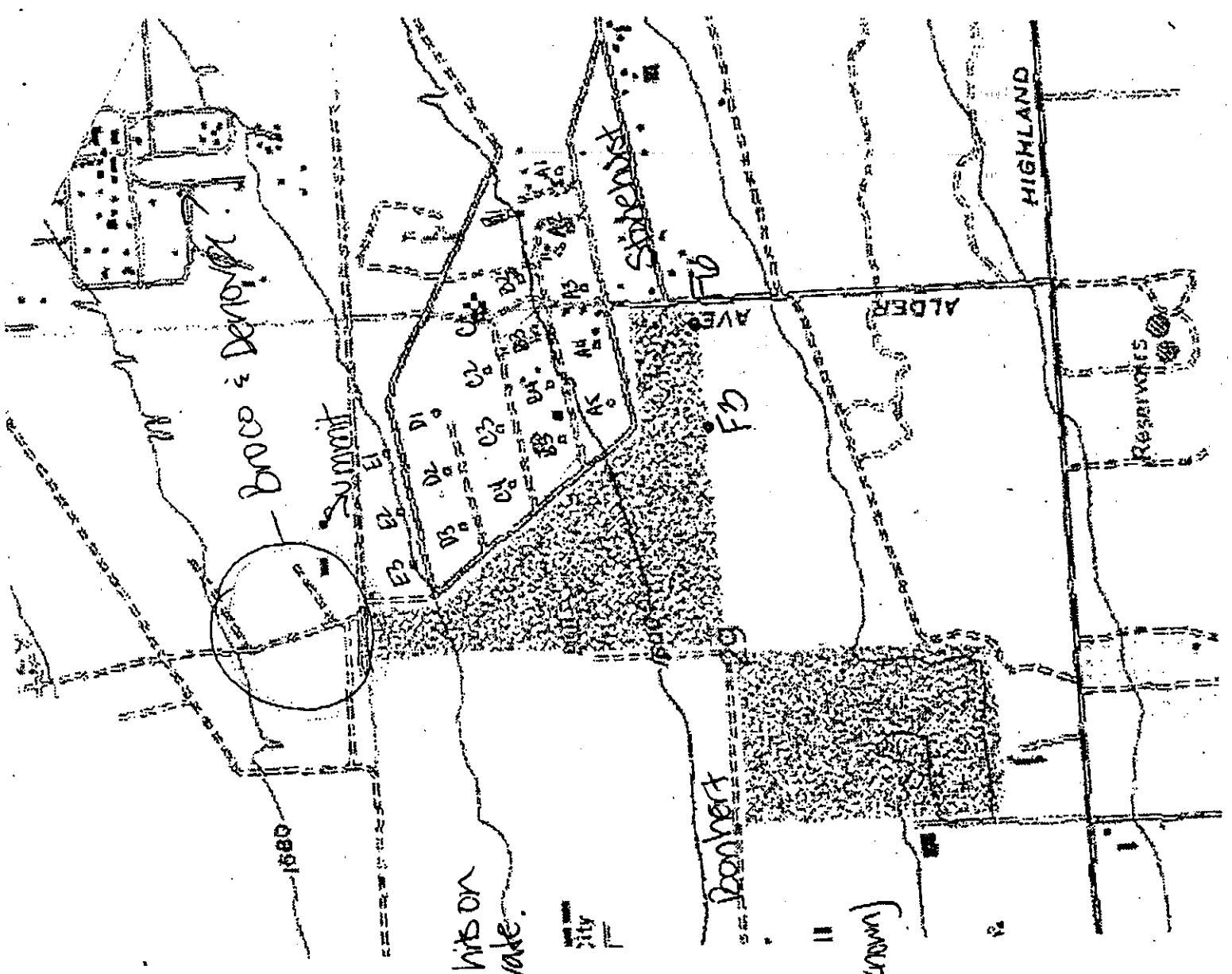
ATTACHMENT 3

Plot Plan showing the former configuration and lessors
of the storage bunkers

Zambelli Fireworks

- A1 Zambelli Fireworks
- A2 — Unknown
- A3 Pyro Spectacular
- A4 Celebrity Fireworks
- A5 Pyro Spectacular
- B1 Astro Fireworks / Inlandwood Properties
- B2 Astro Fireworks / Trojan Fireworks
- B3 Broco
- B4 Broco
- B5 Broco
- C1 Pyro Spectacular
- C2 Broco
- C3 Aerjet
- C4 Aerjet
- D1 Aerjet
- D2 Aerjet
- D3 Aerjet / Aerjet
- E1 Astro Fireworks / Trojan Fireworks
- E2 Pyro Spectacular
- E3 Margaff Dupont-King (Type of Bus Unknown)

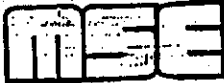
F3 & F4
Both had hits on
perchlorate.



Occupants of Bunkers

ATTACHMENT 4

Waste Inventory and Storage Records



MSE ENVIRONMENTAL, INC.

LABPACK DRUM INVENTORY DESCRIPTION

GENERATOR: AMGEN
GENERATOR EPA ID NO.: CAD 981450893
DOT SHIPPING NAME: WASTE PERCHLORIC ACID
DOT HAZARD CLASS: OXIDIZER CORROSIVE
DOT ID NO.: UN 1873 MANIFEST NO.: _____

DRUM NO.: B-3
PROFILE NO.: EEI 77069
DRUM TYPE/SIZE: DM / 56AL
PAGE 1 OF 1
DATE: _____ BY: JH

	WASTE CODE		CHEMICAL(S)	NO. OF CONT.	CONT. SIZE	QUANT. REMAIN.	TYPE
	EPA	STATE					
1	D002		WASTE PERCHLORIC ACID 35%	1		1/2	G
2			4 liters bottle				
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G-GLASS M-METAL PL-PLASTIC F-FIBER PA-PAPER

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09/04/91

23:24

DEPT 60

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U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-13287

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

D.J. Jones
11/10/88

SECTION I

MANUFACTURER'S NAME Talley Defense Systems		EMERGENCY TELEPHONE NO. (602) 898-2200
ADDRESS (Number, Street, City, State, and ZIP Code) P.O. Box 849, Mesa, AZ 85211		
CHEMICAL NAME AND SYNONYMS N/A		TRADE NAME Propellant 240 Mod. 042
CHEMICAL FAMILY Propellant is primarily a mixture of polyvinyl chloride and ammonium perchlorate		FORMULA N/A
Other information: Airesearch SAFS System.		

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS	N/A	N/A	BASE METAL	N/A	N/A
CATALYST	N/A	N/A	ALLOYS	N/A	N/A
VEHICLE	N/A	N/A	METALLIC COATINGS	N/A	N/A
SOLVENTS	N/A	N/A	FILLER METAL PLUS COATING OR CORE FLUX	N/A	N/A
ADDITIVES	N/A	N/A	OTHERS	N/A	N/A
OTHERS	N/A	N/A			

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
This propellant grain is a composite solid propellant (TAL 200 Mod. 042) that weighs 1.75 grams. It is classified as a DOT Class B Propellant		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	N/A
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____ =1)	N/A
SOLUBILITY IN WATER	N/A		
APPEARANCE AND ODOR	White, rubber like solid, negligible odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Baffled Cup)	N/A	FLAMMABLE LIMITS	N/A	Li	U
EXTINGUISHING MEDIA	N/A				
SPECIAL FIRE FIGHTING PROCEDURES	Do not fight fire. If ignition occurs, evacuate the area until propellant grains burn out or self-extinguishes.				
UNUSUAL FIRE AND EXPLOSION HAZARDS	DOT Class B. Propellant.				

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SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

N/A

EFFECTS OF OVEREXPOSURE

N/A

EMERGENCY AND FIRST AID PROCEDURES

Avoid inhalation of products of combustion.

SECTION VI - REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS
POLYMERIZATION

MAY OCCUR

WILL NOT OCCUR

X

CONDITIONS TO AVOID

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Manually pick up grain and return to original shipping container or equivalent.

(See IX - Special Precautions)

WASTE DISPOSAL METHOD

If disposal is required, these grains should be disposed of only by personnel who are qualified to dispose of explosives, at an approved disposal site, and under approved procedures.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

N/A

VENTILATION

LOCAL EXHAUST

N/A

SPECIAL

N/A

MECHANICAL (General)

N/A

OTHER

N/A

PROTECTIVE GLOVES

N/A

EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

N/A

Industrial eye protection should be worn.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store and handle as a DOD Class 1.3 Compatibility Group C Explosive in accordance with DOD 4145.26M, DOD 5154.4S and federal, state and local laws.

OTHER PRECAUTIONS

Do not expose to heat or open flame, electrical discharge of any sort, impact or friction.

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2610 NORTH ALDER

SAN BERNARDINO COUNTY
DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES
HAZARDOUS WASTE INVENTORY FORM

Non-trade Secret Page

FACILITY NAME: WASTE STORAGE AREA

ITEM # 7

Type of Waste: <u>OXIDIZERS</u>		Waste Classification: <u>SEE BELOW</u> (3 digit code)
Physical Hazard: FIRE: _____ PRESSURE: _____ REACTIVE: <u>X</u>		
Health Hazard: IMMEDIATE HEALTH: <u>X</u> DELAYED HEALTH: <u>X</u>		
Physical State: FORM: Solid: <u>X</u> Liquid: <u>X</u> Gas: <u>X</u> Dust: _____		
Amount and Time at Facility:	# Days/year on-site: <u>365</u>	Unit of Measure:
	Maximum Amount: <u>26,500</u>	gals: <input checked="" type="checkbox"/>
	Average Amount: <u>1,500</u>	lbs: <input type="checkbox"/>
	Annual Amount Generated: <u>100</u>	cu ft: <input type="checkbox"/>
	Container Type: <u>STEEL/PLASTIC/FIBER DRUM</u>	
Storage Pressure: <u>AMBIENT</u> Storage Temp: <u>AMBIENT</u>		
Storage Location(s): <u>3 13 10</u> (Provide grid coordinates from completed facility map.)		
Percent Concentration & Components		
<u>70 %</u> <u>INORGANIC OXIDIZERS</u>		
<u>22 %</u> <u>ORGANIC OXIDIZERS</u>		
<u>8 %</u> <u>ORGANIC PEROXIDES</u>		
_____% _____		
_____% _____		
_____% _____		
NOTES: Trade name(s)/synonym(s) or other information relevant to material(s) listed. <u>131, 135, 551, 612, 132, 721, 722, 723, 724, 725, 726, 727, 728, 741</u> <u>751, 791, 792, 331, 141, 342</u>		

WASTE

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DATE PREPARED: 4/97

MAKE COPIES OF THIS FORM AS NEEDED.



DEPARTMENT OF THE ARMY
U.S. ARMY ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER
PICATINNY ARSENAL, NEW JERSEY 07806-5000

REPLY TO
ATTENTION OF

SMCAR-SF (385-16b)

14 Jan 1991

MEMORANDUM FOR: Commander, U.S. Army Armament Research, Development and Engineering Center, ATTN: SMCAR-FSP-I (Mr. Wood), Picatinny Arsenal, New Jersey 07806-5000

SUBJECT: Interim Hazard Classification No. 03588-2014

1. Reference: a. Report, Gencorp Aerojet, 11 Dec 90, Subject: Interim Explosive Hazard Classification Data for the Full Scale Development 155mm Early Live Firing Test (-81)

b. DoT Letter, Competent Authority approval CA-891241, 20 Dec 90

2. Item: Assembly Band Cutter, Aft for SADARM

3. Reference Document: Ensign Bickford Aerospace P/N 234616 - 1 & 2 Rev-B

4. Applicable Sections of Title 49 Code of Federal Regulations (49 CFR) for proper description and classification: 173.100(d)

5. Interim Hazard Classification:

DOD Hazard Class: 1.4

DOD Storage Compatibility Group: D

DOT Hazard Class: Class C Explosive

DOT Container Marking: Cord Detonating - Handle Carefully

UN Serial Number: 0289

Explosive Weight for QD: .0005 lbs (.00022 kg)

6. Period of Applicability: 1 year

7. Expiration Date: 14 Jan 92

8. a. Sections of Title 49 Code of Federal Regulations for Packaging:

Packaging: Section 173.104(b)

Marking: Section 172, Subpart D and Section 173.104(c)

Labeling: Section 172, Subpart E (172.411) Explosive C Label

b. Packaging Drawings: None

9. The point of contact is Mrs. Z. Luu, SMCAR-SF, (201) 724-5558.

FOR THE COMMANDER:

John E. Clune
MICHAEL F. CLUNE
Chief, Safety Office

CF:
AMXOS-SE, DDES-BKT, SMCAR-FSM-E

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Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072



IDENTITY (As Used on Label and List)
Cartridge, Power Device UN 0323

Note: Blank spaces are not permitted. If any item is not applicable, or no
information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name
Overland Aviation Service Co., Inc.

Emergency Telephone Number
1-800-424-9300

Address (Number, Street, City, State, and ZIP Code)
10271 Bach Blvd

Telephone Number for Information
1-314-428-2062

St. Louis, Missouri 63132

Date Prepared
20 December, 1990

Signature of Preparer (optional)

Section II -- Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Lead, Acids (CAS # 13424-64-4)	N/A	0.10 mg Pb/M	N/A	
Zirconium Powder (CAS # 7440-67-7)	N/A	5 mg/M	N/A	
Potassium Perchlorate (CAS # 7778-74-7)	N/A	5 mg/M	N/A	

Section III -- Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H ₂ O = 1)	N/A
Vapor Pressure (mm Hg)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water	N/A		

Appearance and Odor
Metallic cases with various types of electrical connectors; no odor

Section IV -- Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Auto Ignition Temperature 200°F	KEEP FIRE AWAY	N/A	N/A

Extinguishing Media
Water fog or spray to cool; foam to extinguish

Special Fire Fighting Procedures
Trained personnel maintain 50 to 100 feet distance while cooling & dousing with water fog or spray. Foam from
distance of 50 to 100 feet. Evacuate personnel to safe location.

THIS UNIT CAN BE EXPLOSIVELY DETONATED BY FIRE, EXCESSIVE HEAT, IMPACT, ELECTRICAL CURRENT, RAPID FREQUENCY
(RF) ENERGY. AUTO IGNITION IS 400°F. DETONATION WILL PRODUCE SHRAPNEL TO APPROXIMATELY 50 FEET.

(Reproduce locally)

OSHA 174, Sept 1985

SECRET

008930

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid: Excessive heat (350°F), open flame, impact, electrical currents, RF energy
	Stable	XX	

Incompatibility (Materials to Avoid)

DO NOT ATTEMPT TO OPEN OR REMOVE THE EXPLOSIVE INTERNAL COMPONENTS.

Hazardous Decomposition or Byproducts

Shrapnel, oxides of metal fuels (i.e.: lead, potassium, zirconium) - fumes are noxious

Hazardous Polymerization

May Occur

Will Not Occur

XX

Conditions to Avoid

Excessive heat (350°F), open flame, impact, electrical currents, RF energy

Section VI — Health Hazard Data

Respiratory Effort	Inhalation?	Yes	Skin?	Yes	Ingestion?	N/A
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Health Hazards (Acute and Chronic)

Detonation may cause trauma to eyes, skin, and ears due to loud noise & high energy shrapnel. Avoid inhalation of fumes from detonation. Protect eyes, ears, and skin from detonation by products.

Carcinogenicity

NTP

No

IARC Monographs?

No

OSHA Regulated?

No

Signs and Symptoms of Exposure

Explosive materials upon detonation generate noxious fumes. Each application should be reviewed for exposure per OSHA CFR 29 1910.1035. Close proximity during detonation may cause damage to eyes, ears and skin.

Medical Conditions

Generally Aggravated by Exposure N/A

Emergency and First Aid Procedures

The primary hazards from improper handling and misuse of these power devices are physical wounds resulting from detonation.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled: CONSULT MANUFACTURER IMMEDIATELY

If items are released from packing still intact individually, handle sparingly to re-pack. Wear approved eye & ear protection and static suppressor. If individual items are released from packing and are damaged with explosive material visible or separating, use extreme caution not to expose to friction, static, or impact.

Waste Disposal Method

CONSULT MANUFACTURER IMMEDIATELY. Dispose of excess or broken units by individual functioning in a safety chamber or burning in a suitable incinerator one at a time. Use extreme caution.

Precautions to Be Taken in Handling and Storing

Store in accordance with requirements of CFR 27 and the National Fire Protection Association. Wear eye and ear protection and static grounding. DO NOT REMOVE SHUNT PLUG PRIOR TO INSTALLATION.

Other Precautions

Units are to be handled only by persons thoroughly trained and qualified to handle explosive devices. Keep away from static producing materials and open flame. Do not subject to any electronic test equipment.

Section VIII — Control Measures

Respiratory Protection (Specify Type)

Use mask if detonated.

Ventilation

Local Exhaust
adequate to remove fumes during detonation

Mechanical (General)

Special

N/A

Other

Static Suppression

Protective Gloves

Cotton only

Eye Protection

SAFETY GLASSES ARE RECOMMENDED AT ALL TIMES

Other Protective Clothing or Equipment

Static grounding is recommended during handling as well as ear protection.

Nonhazardous Practices

Good hygiene practices consistent with normal industrial practices.

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04/15/97

BROCO ENVIRONMENTAL, INC. 036-000-030204
Overall Site with 2 Fac. Units

Page 1

General Information

Location: 2610 N ALDER AVE	Map:	Haz:0	Type: 0
City : RIALTO	Grid:	F/U: 2	AOV: 0.0

Contact Name	Title	Contact Name	Title
DOUGLAS D. SMITH	/ PRESIDENT	RICHARD H. ROBBE	/ VICE PRESIDENT
Business Phone: (909) 350-0580x		Business Phone: (909) 350-0580x	
24-Hour Phone : (909) 984-7894x		24-Hour Phone : (909) 987-8177x	
Pager Phone : (909) 204-4438x		Pager Phone : (909) 204-4439x	

Summary

ALTERNATE COORDINATOR: GERALD L. CHUBB/SR. EXPL. TECHNICIAN
 (909) 350-0580 (OFFICE)
 (909) 789-4644 (HOME)
 (909) 204-4437 (24 HR)

Hazmat Inventory List in Quantity Order

All Materials at Site

F/U	Material Name	--Hazards--	Max Qty	Unit	MCP
F/U: 02 - EXPLOSIVES AREA					
EXPLOSIVES 1.1		F P R	-75000	LBS	Extreme
MAGAZINES NUMBERED 1 THRU 10					
EXPLOSIVES (CLASS B) PROPELLANT		F R	10000 30,000	LBS	Unrated
MAGAZINES #6, #7					
EXPLOSIVES (CLASS C) DETONATORS, SQUIBS		F R	500 5,000	LBS	Unrated
MAGAZINE #11					
F/U: 03 - HAZARDOUS WASTE STORAGE AREA					
WASTE LAB PACK		F P R IH DH	-26500	GAL	Unrated
1 THRU 10 & 13					
1 THRU 10 & 13					
1 THRU 10 & 13					
WASTE POISONS		IH DH	-26500	GAL	High
1, 4, 5, 13					
1, 4, 5, 13					
1, 4, 5, 13					
WASTE BASES		DH	-26500	GAL	Unrated
3, 13					
3, 13					
WASTE OXIDIZERS		R IH DH	-26500	GAL	Unrated
3, 13, 10					
3, 13, 10					
3, 13, 10					
WASTE DOT CLASS 9 AND/OR NON RCRA		DH	-26500	GAL	Unrated
1, 4, 5, 13					
1, 4, 5, 13					

SBC HMD

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04/15/97

BROCO ENVIRONMENTAL, INC. 036-000-030204
 Hazmat Inventory List in Quantity Order

Page 2

All Materials at Site

F/U	Material Name / Location	--Hazards--	Max Qty	Unit	MCP
F/U: 03 - HAZARDOUS WASTE STORAGE AREA					
	1, 4, 5, 13				
	WASTE ACIDS	IH DH	26500	GAL	Moderate
	6, 13				
	6, 13				
	WASTE SOLVENTS	F IH DH	26500	GAL	Unrated
	7, 8, 9, 10, 13				
	7, 8, 9, 10, 13				
	WASTE PAINT RELATED MATERIAL	F DH	26500	GAL	Unrated
	7, 8, 9, 10				
	QUADREX COMPONENT "B"	F R	5000	LBS	Unrated
	STORAGE CONTAINER #12				
	EXPLOSIVES (CLASS B) PROPELLANT	F R	2500	LBS	Unrated
	B1, B5, B4, B6, B7				
	QUADREX COMPONENT "A"	F R	2000	LBS	Unrated
	STORAGE CONTAINER #11				
	WASTE CLASS B EXPLOSIVES	F R	2000	LBS	Unrated
	B1, B2, B3, B7				
	EXPLOSIVES 1.1	F R	1500	LBS	Extreme
	B1, B5, B6				
	WASTE CLASS C EXPLOSIVES	F R	1500	LBS	Unrated
	B1, B2, B3, B7				
	WASTE EXPLOSIVES (HIGH)	F R	1250 3000	LBS	Unrated
	B1, B3				
	B1, B3				
	EXPLOSIVES (CLASS C) DETONATORS, SQUIBS	F R	600	LBS	Unrated
	B1, B4, B7				

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.....
PROFILE # 85008.

DATE REC'D 041693.

LAB # 30961.

MANIFEST # 00027

QUANTITY 2-3

UNIT G.

STARTING HCT# 93-14440.

ENDING HCT # 93-14441.

HANDLING CODES SWI T24

WASTE CODES 0001,8,11

PHYSICAL STATE LIQ.

pH 6.0.

COLOR CLEAR

HOC ?

VISCOSITY L.

IGNITABILITY >200

ODOR NONE

IF pH >5 CYANIDE

OFF-SPEC NO

COMMENTS:

IS APPROVAL MORE THAN 1 YEAR OLD?: N.
.....

..... Warehouse Sample Log PROFILE 85008.
Sample # 30961. PSS # W.O. # Date 04-16-93. Status COM.
Description OXIDIZER Sent to Lab
Rec'd / Lab
pH FP CN <1 PCB Halogens BTU/Lb

OTHER ANALYSES: (ENTER 4 DIGIT NAME IN FIRST FIELD; RESULT IN SECOND)

Comments:
Composite Sample ? if yes, complete next item; if not skip to generator
using down arrow key
List HCT's or Profile in composite sample:
9314440. -41.

Generator: BROCO Contact Phone:
Broker: BROCO Report to: LANCE.
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